

# Atlantic Richfield Company

**Ron Halsey**  
Operations Manager - US Mining, Canada & Alaska

4 Centerpointe Drive  
Room 4-446  
La Palma, CA 90623  
(714) 670-5331  
Ronald.Halsey@bp.com

## **VIA ELECTRONIC MAIL AND HAND DELIVERY**

May 2, 2011

Mr. Steven Way  
US EPA Region 8  
Emergency Response Program (8EPR-SA)  
1595 Wynkoop Street  
Denver, Colorado 80202-1129

**Re: Unilateral Administrative Order for Removal Action  
Rico-Argentine Site, Dolores County, Colorado  
U.S. EPA Region 8, Docket No. CERCLA-08-2011-0005**

Dear Mr. Way:

Atlantic Richfield Company ("Atlantic Richfield") received the above-referenced Unilateral Administrative Order (the "UAO") on March 17, 2011. On March 22, 2011, we timely requested a conference with EPA to discuss the UAO and associated Work Plan requirements. The conference was held on April 11, 2011. By letter dated April 21, 2011, EPA confirmed that the modified Effective Date of the UAO is April 18, 2011.<sup>1</sup>

As required by Section VII of the UAO, and except as otherwise stated herein, Atlantic Richfield hereby notifies EPA that it intends to comply with the lawful requirements of the UAO for the performance of a removal action at the Rico-Argentine Site.

This letter includes discussion of issues addressed during the April 11 conference. This letter also contains: notification of the name and qualifications of Atlantic Richfield's project manager and primary support entities and staff, comments on the Work Plan, comments on the UAO, and objections to those UAO provisions that are not consistent with EPA's authority under CERCLA and the National Contingency Plan.

Atlantic Richfield submits the comments and objections below for purposes of the Administrative Record for the Rico-Argentine Site and for purposes of any future enforcement of the compliance requirements and other provisions of the UAO. Atlantic Richfield reserves the right to supplement this letter if additional pertinent information becomes available after the date of submission. In submitting this notice, Atlantic Richfield reserves any and all rights and defenses it may have under the UAO, as stated in greater detail below or otherwise. Atlantic

---

<sup>1</sup> Under paragraph 66 of the UAO, the Effective Date is seven days after the conference. Under paragraph 28 of the UAO, Atlantic Richfield's notification of its intent to comply is therefore due May 2, 2011.

Richfield's agreement to comply with the lawful requirements of the UAO is made without waiver of any claims and defenses it may have against third parties for contribution, reimbursement, and recovery of associated costs and expenses.

Capitalized terms used herein shall have the same definitions as used in the UAO unless otherwise indicated.

## **I. PROJECT MANAGER AND SUPPORT**

For purposes of Paragraph 30 of the UAO, Atlantic Richfield hereby notifies EPA that our Project Coordinator will be:

Chuck Stilwell, P.E.  
Remediation Management  
Atlantic Richfield Company  
MB 11-06  
900 East Benson Blvd.  
P.O. Box 196612  
Anchorage, Alaska 99519-6612  
Tel: (907) 771-8083  
Cell: (406) 491-1129  
Fax: (907) 564-4040  
[Chuck.Stilwell@bp.com](mailto:Chuck.Stilwell@bp.com)

Mr. Stilwell is a licensed professional engineer. He has worked as a Project Manager for Atlantic Richfield Company's remediation group since 1991, during which time he has overseen the environmental assessment and remediation of a number of major facilities in the company's portfolio, including sites subject to EPA oversight. Mr. Stilwell has served as the Project Manager for the Rico Site since 1999, with responsibility for administration of all response actions. He has extensive experience working with federal, state and local agencies involved in remediation and environmental clean-up, including a successful track record with stakeholder groups and non-governmental organizations. A copy of Mr. Stilwell's resume can be made available upon request.

Mr. Stilwell will not be present on Site at all times while Work is occurring. However, he will be readily available by telephone or email. He will also ensure that representatives of Atlantic Richfield's lead contractors are present on Site during performance of the Work to the greatest extent possible.

For purposes of Paragraph 29 of the UAO, Atlantic Richfield hereby notifies EPA that the following additional persons have been retained to provide primary technical support to Atlantic Richfield for the performance of the Work:

Douglas Yadon, P.E., Senior Geotechnical Engineer  
Thomas Kreutz, P.E., Senior Project Manager  
AECOM  
717 17th Street, Suite 2600  
Denver, CO 80202  
Tel: 303.228.3000  
Fax: (303) 228-3001  
[douglas.yadon@aecom.com](mailto:douglas.yadon@aecom.com)  
[Thomas.Kreutz@aecom.com](mailto:Thomas.Kreutz@aecom.com)

Chris Sanchez, CSP, V.P. of Operations/Sr. Project Manager  
Steven Anderson, P.E., Principal  
Anderson Engineering Co. Inc.  
Southwest Office  
1109 Mesa Blvd.  
Grants, New Mexico 87020  
Tel: (505) 285-6484  
Fax: (505) 285-4058  
[csanchez@andersoneng.com](mailto:csanchez@andersoneng.com)

Mr. Yadon, Mr. Kreutz, and other AECOM personnel will provide primary technical support for elements of the Work relating to pre-design, planning, structural and geotechnical analysis, design, water sampling, data evaluation, and analysis of control and treatment technologies. AECOM is an international provider of professional technical and management support services to a broad range of markets, including transportation, facilities, environmental, energy, water and government. AECOM's Environment division provides a full range of remediation solutions to manage contaminated soil, groundwater, sediments, and infrastructure. Mr. Yadon has assisted Atlantic Richfield with Site-related geotechnical investigations, water quality assessment, treatment technology analyses, and other environmental assessment and remediation tasks for approximately 10 years. He received his Masters degree in civil engineering with a geotechnical emphasis in 1976 from Stanford University. He has practiced in the fields of engineering geology and geotechnical engineering since that time. He has extensive experience performing mine site geotechnical analyses and cleanups, and he has worked with Atlantic Richfield to design, construct, and operate solids removal projects and pond-based lime addition treatment systems at other CERCLA sites. Mr. Kreutz is a Senior Project Manager in AECOM's Environment division. He will be primarily responsible for project oversight and administration.

A copy of AECOM's 2011 Integrated Management System ("IMS") Manual is being submitted with this Notice. The IMS Manual describes the company's Quality Management System, Environmental Management System, and Safety Management System. Based on discussions with EPA during the April 11 conference, it is our understanding that this information is sufficient to satisfy the request in Paragraph 29 of the UAO for submission of a Quality Management Plan.

Mr. Sanchez, Mr. Anderson, and other Anderson Engineering staff will provide primary technical support for elements of the Work relating to surveying, construction, earth-moving, sampling, and in-field monitoring. Anderson Engineering provides technical services in the areas of civil design, project management and quality assurance/quality control, land surveying, environmental studies, reclamation, structural design, and surface water management. Mr. Sanchez is a Certified Safety Professional and serves as Vice President of Operations and a Senior Project Manager at Anderson Engineering's Southwest Office in Grants, New Mexico. He holds an M.S. in watershed hydrology from New Mexico State University, and has 28 years experience in construction and environmental project planning, design and management, and safety for remedial actions. He has supported Atlantic Richfield on mine site reclamation and remediation work in the Rico area and at other sites for many years. Mr. Sanchez and the Anderson Engineering team are experienced in all phases of environmental cleanup projects, including survey, design, licensing and construction of mining and hazardous material reclamation, and watershed management and drainage projects.

A copy of Anderson Engineering's Quality Management Plan will be furnished to EPA by May 15, 2011.

Other personnel may be retained to provide technical support after the date of this letter in accordance with Paragraph 29 of the UAO.

## **II. COMMENTS ON THE WORK PLAN**

Atlantic Richfield offers the following comments on the Work Plan attached to the UAO.

### **A. Initial Scheduling Deadlines**

Section 8.0 sets forth EPA's proposed schedule for the tasks described in the Work Plan. Because of the timing of the April 11 UAO conference, several of the initial deadlines in the schedule pre-date or come very soon after the extended Effective Date of April 18, 2011. As discussed during the conference, Atlantic Richfield assumes EPA will allow for flexibility in satisfying these initial requirements. Atlantic Richfield requests EPA's confirmation that certain date-specific schedule deadlines for tasks to be completed during the 2011 calendar year will be extended to account for the time between the initial Effective Date of the UAO (March 23, 2011) and the modified Effective Date, as follows:

- *Previous Studies Delivered to EPA.* Atlantic Richfield will do its best to compile and deliver existing water quality information and other available Site-related information to EPA by May 15, 2011. We are separately providing available information relating to the Source Water Investigations task (Task E) to EPA today, and a meeting among EPA's and Atlantic Richfield's technical representatives is scheduled for May 10, 2011 to discuss this task.
- *Task A1, Flow Monitor Installation.* Atlantic Richfield expects to install automatic flow monitoring equipment at the Site by May 30, 2011. The equipment has been ordered and will be installed once conditions allow for safe access to the monitoring

points. In the meantime, flow measurements will be obtained manually by field personnel.

- *Task A2, SAP/QAPP, HASP, and First Sampling Event.* Atlantic Richfield will provide EPA with a SAP, QAPP, and HASP addressing initial sampling activities on May 2, 2011. These documents will likely be modified in the future as additional sampling activities and other response actions are planned and completed. Atlantic Richfield commenced initial water quality sampling and flow monitoring at the Site in April 2011.
- *Task B2, Initial Mobilization and Pond 18 Solids Removal.* Atlantic Richfield will commence field activities in preparation for the removal of solids from Pond 18 by July 2, 2011. Pond 18 solids removal is expected to occur from July 2 through December 31, 2011. The Solids Removal Plan will be submitted to EPA on May 2, 2011.

#### **B. Review-Dependent Deadlines**

Some of the Work Plan's scheduling deadlines require that EPA approve a plan, report, or other submittal before the task can begin. Atlantic Richfield assumes that EPA will allow additional time for task completion if EPA's review and approval process takes longer than expected (approximately 15 to 30 days). Because of the weather-dependent shortened work season at the Site, a relatively short extension of EPA's approval process could result in a much longer delay in Atlantic Richfield's ability to complete certain tasks.

#### **C. Performance and Funding of Mine Water Source Investigations**

During the April 11 conference, EPA and Atlantic Richfield discussed options for having EPA conduct the in-mine investigations required under Task E of the Work Plan, with funding provided by Atlantic Richfield. Safety considerations preclude Atlantic Richfield from performing work inside the underground mine workings at the Site. EPA confirmed that it has personnel with the necessary expertise to conduct this work, and the Agency has conducted similar investigations at other abandoned mining sites. EPA and Atlantic Richfield committed to working together in the coming months to review existing technical information and plan out an investigation program for implementation by EPA. Under such a plan, Atlantic Richfield and EPA would develop a separate agreement whereby Atlantic Richfield could provide EPA with the necessary funding and participate in the review and analysis of the collected data. Atlantic Richfield and EPA plan to discuss these topics during a meeting scheduled for May 10, 2011.

#### **D. Sequence of Major Engineering Tasks**

As discussed during the April 11 conference, the inter-relatedness and sequencing of the Work Plan's requirements mean that the outcome of certain preliminary investigations could influence the timing and direction of other tasks. For example, investigations performed under "Task E – Source Water Investigations and Controls" could demonstrate that viable hydraulic control alternatives are available. This result could alter Atlantic Richfield's initial assumptions

for design of the solids repository and water treatment system. During the April 11 conference, EPA acknowledged that it would provide scheduling relief in such circumstances to allow for development and implementation of alternative designs, if necessary. EPA and Atlantic Richfield also committed to collaborating early in the investigation and design process to review existing information on adit discharge sources and develop a strategy for further evaluations.

**E. State Involvement in Design and Permitting**

The UAO acknowledges in Paragraph 34.d that operation of the water treatment system and solids repository in accordance with State of Colorado permitting and design requirements will be considered adequate post-removal site controls under Section 300.415(l) of the NCP. During the April 11 conference, EPA and Atlantic Richfield discussed ways that the State water quality and waste management divisions can be involved in the design and construction of these facilities during implementation of the Work Plan. Atlantic Richfield has repeatedly emphasized the importance of such communication. Our intent is to design and build the water treatment system and repository in a way that satisfies State requirements, so that post-removal action modifications are not required to obtain the necessary State permits and approvals, and State reviews do not delay the completion of critical Work tasks. EPA stated that it has already reached out to State officials, and the Agency committed to working with Atlantic Richfield to keep the State involved and informed as the Work proceeds. Atlantic Richfield will continue to press for State involvement in this process.

**III. COMMENTS ON THE UAO AND REQUESTS FOR CLARIFICATION**

Following are comments and requests for clarification concerning specific provisions of the UAO.

**A. Paragraph 35 (Reporting)**

Paragraph 35 requires submission of written progress reports on the 5<sup>th</sup> day of each month beginning the first month after the start of Work. Atlantic Richfield requests confirmation that no written report needs to be submitted in May 2011, in light of the very recent commencement of field activities and other recent communications with EPA. We also request that the submittal date for progress reports be changed to the 10<sup>th</sup> of each month to allow sufficient time to compile results and report on the activities occurring during the prior month.

**B. Paragraph 36 (Final Report)**

Paragraph 36 requires submittal of a final report summarizing the actions taken to comply with the UAO within 30 days after all Work has been completed. Atlantic Richfield requests that EPA extend this deadline to 90 days post completion to allow sufficient time to compile, analyze, and report the required information.

**C. Paragraph 37.a (Access to Site)**

Paragraph 37 provides that EPA and State of Colorado representatives shall be allowed to enter the site and “move freely at the Site.” Atlantic Richfield requests clarification that this provision is subject to the acknowledgement that EPA, the State of Colorado, and the representatives of each will satisfy the requirements of Atlantic Richfield’s safety protocols for on-site personnel. In addition, though Atlantic Richfield will provide non-privileged documents requested by EPA, the company may assert business confidentiality as provided at 40 C.F.R. § 2.201 *et seq.* concerning qualifying documents.

**D. Paragraph 37b (Access)**

Paragraph 37.b of the UAO requires that Atlantic Richfield use its best efforts to obtain all access agreements necessary to perform Work in areas owned by other persons within 14 days after the Effective Date. As discussed during the April 11 conference, no additional access agreements or arrangements are necessary to perform the Work Plan tasks scheduled to occur in 2011. Some of the anticipated water treatment facilities will be constructed and operated in the future on parcels of land that currently include a mix of privately owned mining claims and lands owned by the U.S. Forest Service. Atlantic Richfield is taking steps to acquire these parcels before construction of the associated facilities is required under the Work Plan’s current schedule.

**E. Paragraph 42.b (Notification of Releases)**

Paragraph 42.b requires that Atlantic Richfield immediately notify EPA “in the event of any release of a hazardous substance.” Atlantic Richfield requests written confirmation from EPA that ongoing adit discharges from the St. Louis Tunnel and the ongoing release of water from the ponds during the performance of the Work will not be deemed a “release” requiring notification for purposes of this paragraph.

**F. Paragraph 54 (Modification)**

Under Paragraph 54, modifications to any plan or schedule, including the Work Plan, may be made at the On Scene Coordinator’s direction. It is our understanding that this provision is not meant to be used as a means to expand the scope of the Work required under the UAO. Atlantic Richfield requests written confirmation from EPA that it will not modify the Work Plan, absent a material change in the information and conditions known to EPA, in such a way as to require investigations or response actions in addition to or inconsistent with those specified in the Work Plan.

**G. Paragraph 61 (Insurance)**

Paragraph 61 requires that Atlantic Richfield or its contractors secure certain insurance coverages and provide EPA with evidence of coverage at least seven days prior to commencing any Work. As stated below, Atlantic Richfield disputes EPA’s authority under CERCLA § 106(a) to impose this requirement. Notwithstanding this reservation, Atlantic Richfield has

confirmed that its contractors have insurance coverages in place that satisfy the requirements in Paragraph 61.

Atlantic Richfield requests that it be given until May 15, 2011 to provide EPA with copies of the certificates of insurance. Atlantic Richfield also requests that EPA confirm that submission of the certificates will be sufficient, without the need to submit copies of each insurance policy. Atlantic Richfield further notes that it and its contractors satisfy all applicable laws and regulations regarding the provision of worker's compensation insurance for persons performing Work under the UAO.

#### **IV. OBJECTIONS TO THE UAO AND ATLANTIC RICHFIELD'S RESERVATIONS OF RIGHTS**

Atlantic Richfield provides the following reservations and objections to the terms of the UAO for purposes of the Administrative Record:

##### **A. Parties Bound, Findings of Fact, and Conclusions of Law and Determinations**

Atlantic Richfield does not admit and reserves its right to contest the statements contained in the UAO's Findings of Fact and Conclusions of Law and Determinations (Sections IV and V). This Notice of Intent to Comply shall not under any circumstances constitute an admission of the terms or conditions of the UAO, or of any liability associated with the Site, and Atlantic Richfield expressly reserves its right to contest the same.

Further, nothing in this letter, nothing stated during the UAO conference, and nothing in Atlantic Richfield's actions to comply with the UAO, shall be construed as a waiver or release of: (1) any claim, cause of action, or demand in law or equity that Atlantic Richfield may have against any person for any liability arising out of or in any way relating to the Site; or (2) any defense that Atlantic Richfield may have to any type of liability arising out of or in any way relating to the Site.

Subject to this reservation, and without limitation, Atlantic Richfield has the following specific comments on the Findings of Fact:

- *Paragraph 11.* Pond 18 is not immediately adjacent to the Dolores River. The ponds are separated from the river by dikes and berms along the east bank, and the ponds are elevated above the original historic flood plain. Atlantic Richfield performed ongoing clearing and maintenance of existing hydraulic facilities and structures and construction of additional controlled overflows (spillways) in the ponds' flow system at various times between 2000 and 2008. Further improvements to provide for additional normal freeboard and spillway capacity at Pond 18 were implemented in the fall of 2010.
- *Paragraph 12.* Embankments of the upper ponds along the Dolores River have been raised and armored with riprap to provide protection against flooding and to isolate the ponds from the 100-year floodplain.



- *Paragraph 18.* St. Louis Smelting and Refining Co. was a subsidiary of National Lead Company (which later changed its name to NL Industries, Inc.). Anaconda assumed responsibility for operation of the water treatment and ponds system under the existing Colorado Discharge Permit System permit (CO-0029793) in 1980. In 1984, after its 1981 merger with Anaconda, Atlantic Richfield constructed and began operating a new slaked-lime addition plant to treat the St. Louis Tunnel adit discharge as it entered the ponds system. Between 1984 and 1995, slaked lime was added to the tunnel discharge to improve water treatment and solids removal. In 1988, Atlantic Richfield sold its interests at the Site to Rico Development Corporation. The CDPS permit transferred to Rico Development Corporation at that time. In 1996, active treatment of the discharge with lime was discontinued. The CDPS permit expired in 1999 and was not renewed.

## **B. Parties Bound**

Atlantic Richfield objects to EPA's statement in Paragraph 4 that the UAO shall be binding upon Atlantic Richfield's directors, officers, employees, agents, successors, and assigns. No factual basis exists for binding such individuals or entities in this instance, and EPA has not made any determinations, findings, or conclusions that would provide grounds for holding them liable under CERCLA for any conditions at the Site. *See, United States v. Bestfoods, Inc.*, 524 U.S. 51, 61-62 (1998).

## **C. Reimbursement and Financial Assurances**

Section XII requires that Atlantic Richfield reimburse EPA for all response costs incurred by the United States in overseeing Atlantic Richfield's implementation of the requirements of the UAO. Section XX requires that Atlantic Richfield establish and maintain an irrevocable letter of credit in the amount of \$6 million as financial security for the completion of the Work. Atlantic Richfield objects to both of these requirements.

EPA's authority under CERCLA § 106(a) is limited to the issuance of orders for abatement actions "as may be necessary to protect public health and welfare and the environment." Nothing in § 106(a) authorizes EPA to order a potentially responsible party to obtain insurance, establish financial security, or reimburse EPA for its response costs, which only can be recovered, if at all, through a separate civil action.

Atlantic Richfield reserves the right to contest both the assertion and the amount of any response costs claimed by EPA in any such action. By ordering Atlantic Richfield to reimburse EPA for response costs under a Section 106(a) UAO, EPA attempts to deprive Atlantic Richfield of its statutory right to challenge its liability for response costs under CERCLA § 107(a).

As stated during the April 11 conference, Atlantic Richfield will comply with the lawful requirements of the UAO, but it does not intend to purchase a letter of credit providing financial security for the performance of the Work. In the course of previous negotiations with EPA over the terms of an Administrative Order on Consent, Atlantic Richfield offered to establish and maintain financial security for performance of certain response actions at the Site in one or more forms, including a demonstration by Atlantic Richfield or an affiliated corporation of satisfaction

of the financial test requirements in 40 C.F.R. § 264.143(f). However, EPA rejected that offer. If EPA chooses to revise the financial assurance requirements of the UAO, Atlantic Richfield may consider changing its position on securing financial assurances for the Work. In the meantime, as noted above, Atlantic Richfield has committed to providing EPA with funding to conduct the in-mine investigations required under Task E of the Work Plan.

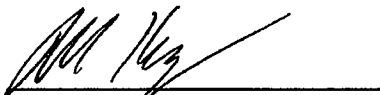
**D. Enforcement**

Atlantic Richfield notes that the penalty provisions for failure to comply with the UAO set forth in Section XI, paragraph 45 do not apply if sufficient cause exists for failure or refusal to comply, or if the failure to comply was not willful. *See* Sections 106(b)(1) and 107(c)(3) of CERCLA. In addition, such penalties may be recovered only through a separate judicial action, and may not be imposed unilaterally by EPA.

**V. CONCLUSION**

Atlantic Richfield requests EPA's careful consideration of these comments. We look forward to working cooperatively with EPA in the implementation of the Work Plan. Please contact Chuck Stilwell at (406) 491-1129, [chuck.stilwell@bp.com](mailto:chuck.stilwell@bp.com), or me at (714) 670-5331, [ronald.halsey@bp.com](mailto:ronald.halsey@bp.com), with any questions or issues relating to the UAO.

Sincerely,



Ronald Halsey  
Operations Manager - US Mining, Canada & Alaska

Enclosure (AECOM IMS Manual)

cc: Amelia Piggott, EPA Region 8  
Matt Cohn, EPA Region 8  
Chuck Stilwell, Atlantic Richfield Company  
Steve Dischler, Atlantic Richfield Company  
William Duffy, Davis Graham & Stubbs LLP  
Adam Cohen, Davis Graham & Stubbs LLP



**INTEGRATED MANAGEMENT SYSTEM MANUAL**  
**April 4, 2011**

Revision 0

## TABLE OF CONTENTS

1.0	Purpose and Scope.....	1
1.1	Services.....	1
1.2	Integrated Management System (IMS).....	1
	1.2.1 Quality Management.....	1
	1.2.2 Environmental Management.....	1
	1.2.3 Safety Management.....	1
1.3	IMS Documentation .....	2
1.4	Scope .....	2
	1.4.1 Quality Management System .....	2
	1.4.2 Environmental Management System .....	2
	1.4.3 Safety Management System .....	2
2.0	IMS Policy .....	3
3.0	Organization.....	3
4.0	Management Systems .....	3
	4.1 General.....	3
	4.2 Documentation Requirements .....	3
	4.2.1 General .....	3
	4.2.2 IMS Manual.....	3
	4.2.3 Control of Documents .....	3
	4.2.4 Control of Records .....	4
5.0	Management Responsibility.....	4
	5.1 Management Commitment .....	4
	5.2 Client Focus .....	4
	5.3 Policy.....	4
	5.4 Planning .....	4
	5.4.1 Objectives .....	4
	5.4.2 Integrated Management System Planning .....	5
	5.5 Responsibility, Authority and Communication .....	5
	5.5.1 Responsibility and Authority .....	5
	5.5.2 Management Representative .....	5
	5.5.3 Communication .....	5
	5.6 Management Review .....	5
	5.6.1 General Provisions.....	5
	5.6.2 Review Input .....	6
	5.6.3 Management Review Output.....	6
6.0	Resource Management.....	6
	6.1 Providing Adequate Resources .....	6
	6.2 Human Resources .....	6
	6.2.1 General .....	6
	6.2.2 Competence, Awareness and Training .....	7
	6.3 Infrastructure.....	7
	6.4 Work Environment .....	7
7.0	Product Realization.....	7
	7.1 Project Planning.....	8
	7.2 Client-related Processes.....	8
	7.2.1 Determination of Requirements.....	8
	7.2.2 Review of Requirements.....	8
	7.2.3 External Communications.....	8
	7.3 Design .....	8
	7.3.1 Planning .....	8
	7.3.2 Inputs .....	8
	7.3.3 Outputs.....	9
	7.3.4 Design Review .....	9
	7.3.5 Design Verification.....	9
	7.3.6 Design Validation .....	9
	7.3.7 Design Changes .....	9
	7.4 Purchasing .....	9
	7.4.1 Purchasing Process.....	9

	7.4.2	Purchasing Information.....	9
	7.4.3	Verification of Purchased Product.....	9
7.5		Production and Services.....	9
	7.5.1	Control of Production and Services.....	9
	7.5.2	Validation of Processes for Production and Services.....	10
	7.5.3	Identification and Traceability.....	10
	7.5.4	Client Property.....	10
	7.5.5	Preservation of Product.....	10
7.6		Control of Monitoring and Measuring Devices.....	10
7.7		Emergency Preparedness and Response.....	10
8.0		Measurement, Analysis and Improvement.....	10
	8.1	General.....	10
	8.2	Monitoring and Measurement.....	10
	8.2.1	Client Satisfaction.....	10
	8.2.2	Internal Audits.....	11
	8.2.3	Monitoring and Measuring of Processes.....	11
	8.2.4	Monitoring and Measuring of Product.....	11
	8.3	Control of Nonconformances.....	11
	8.4	Analysis of Data.....	12
	8.5	Improvement.....	12
	8.5.1	Continuous Improvement.....	12
	8.5.2	Corrective Action.....	12
	8.5.3	Preventive Action.....	12
9.0		Emergency Preparedness and Response.....	12
10.0		Attachments.....	12

## **IMS Manual – Introduction**

### **1.0 Purpose and Scope**

#### **1.1 Services**

AECOM is a large, global professional services company primarily involved in planning, design, construction, program management, maintenance and operations for projects pertaining to the world's built, natural and social environments. Typical services and deliverables include, but are not limited to:

- Preparing drawings and specifications (contract documents) used by clients to describe a facility to be constructed by others.
- Preparing studies and reports used by clients to justify and define projects or as input to projects.
- Observation of work under construction to help advise clients that the contractor is doing the work according to the contract documents.
- Assisting clients with managing, administering, coordinating, constructing and operating larger, multi-project programs and/or client-owned facilities.

#### **1.2 Integrated Management System (IMS)**

For the purposes of this Manual, AECOM's IMS consists of three primary components: a Quality Management System (QMS), Environmental Management System (EMS) and Safety Management System (SMS). As there are elements in common through these systems, especially in the context of addressing ISO standard requirements, a single, top-level IMS Manual is used to outline our approach to these components. Where Business Line and/or Geographic variation apply, these are noted in the appropriate sections of this Manual.

##### **1.2.1 Quality Management**

AECOM approaches quality management in alignment with the BS EN ISO 9001:2008 International Standard. The company is fully committed to the management principles underlying the ISO 9001:2008 standard and to AECOM's QMS. These principles emphasize the need to understand our clients' needs and preferences and to strive to meet or exceed their requirements and expectations. To accomplish this goal, AECOM's Executive Management provides leadership that engages all AECOM employees in the quality processes. By identifying, understanding and managing interrelated processes as a system, AECOM increases its efficiency and effectiveness in meeting its organizational objectives. This approach includes continuous reassessment and improvement of the underlying processes and promotes decision-making based on factual information and data. Through consistent application of this QMS, AECOM's opportunity to create mutually beneficial values is enhanced, which then enhances our clients' ability to create value for their end users.

##### **1.2.2 Environmental Management**

In specific geographies or office locations, AECOM approaches environmental management in alignment with the BS EN ISO 14001:2004 standard. Where applicable, AECOM is fully committed to the management principles underlying the ISO 14001:2004 standard and to AECOM's EMS. The principles of AECOM's EMS emphasize the need to understand and evaluate the organization's services that interact with the environment and to strive to meet or exceed the established environmental objectives and targets. To accomplish this goal, AECOM's Executive Management provides leadership that engages all AECOM employees in the processes.

##### **1.2.3 Safety Management**

In specific geographies or office locations, AECOM approaches health and safety management in alignment with the BS OHSAS 18001:2007 standard. Where applicable, AECOM is fully committed to the management principles underlying the OHSAS 18001:2007 standard and to AECOM's Safety, Health & Environment (SH&E) program. The Management System documents policies, process and procedures for the systematic, uniform and cost-effective implementation of our approach in managing health and safety issues.

The system is structured so that materials and services purchased, as well as ongoing company activities, comply with the requirements of current legislation, objectives and targets, and contract specifications. To accomplish this goal, AECOM's Executive Management provides leadership that engages all AECOM employees in the processes.

### 1.3 IMS Documentation

AECOM's IMS documentation is structured in four tiers as depicted in Attachment 1 and as further defined in IMS Procedure G2-001-PR. The top-level tier consists of this IMS Manual which provides an overview of the corporate commitment, philosophy, management, reporting and organization, as well as a foundation for the procedural and execution elements.

The second tier consists of IMS procedures that address specific requirements of appropriate international standards and other procedures that AECOM has developed to address recognized business needs, but may not be required by standards. Tier II Procedures are implemented uniformly across all parts of the AECOM organization, details of which are outlined by the scope of each IMS procedure.

The third tier consists of supplemental procedures that further define requirements applicable to specific Geographies, Business Lines, regions or offices across AECOM. These variations are often required to address the differences in practice, client requirements, cultures, regulatory or jurisdictional requirements that exist in different parts of the world.

The fourth tier of documents provides additional non-mandatory guidelines or best practices that assist the business in running efficiently at the Geography, Business Line or regional level.

**Project Delivery System (PDS)** – The AECOM Project Delivery System, or PDS, is an interactive platform that will serve as the single system for project delivery for all AECOM employees. It is an intranet-based tool that will direct employees to the specific Business Line or Geography policies, procedures, forms, and other materials (Tier I through Tier IV) needed for their activities, as well as information to successfully manage projects and comply with Integrated Management System (IMS) requirements.

### 1.4 Scope

The Integrated Management System applies to all AECOM PTS (professional technical services) projects and to all Business Lines with the exception of the Federal Services Group, Construction Services, and Program, Cost, Consultancy.

The subsections below provide further scope definition for specific elements of the IMS, including quality management, environmental management and safety management. In addition, each Geography is required to further define the applicability of these specific elements of the IMS to meet their specific geographic needs. For example, a Geography may require the QMS to be applicable to all regions and offices (with the exception of the Business Lines noted above), but the EMS may be applicable to specific offices or locations only. Other specific exclusions may be defined at the direction and with the approval of the Geography's Office of Risk Management.

#### 1.4.1 Quality Management System

The QMS applies to all client projects managed by AECOM and as further defined by each Geography to meet their specific needs. In general, organizations or projects managed solely or jointly by other entities such as program managers, joint ventures or client organizations are ordinarily required to follow project- or program-specific management systems and, if so, may be excluded from the specifics of the AECOM QMS with the approval of the Geography's Office of Risk Management. This exclusion notwithstanding, the overarching professional principles and standards of care applicable to our business shall guide the work of AECOM employees in such settings. Work performed by AECOM as a discrete subconsultant is considered to be AECOM-managed and is subject to the requirements of the QMS.

#### 1.4.2 Environmental Management System

This IMS Manual describes the core elements of the AECOM EMS and provides guidance for environmental management so that all areas of operations comply with planned arrangements. PTS projects managed by AECOM are required to meet the scope of services provided by the client. Therefore, the environmental goals of these projects, while adhering to the requirements established herein, where applicable, will be individually set by the requirements of the contract between AECOM and the client. In all cases, however, the overarching professional principles and general commitments set forth in the AECOM IMS Policy shall guide the work of AECOM employees.

#### 1.4.3 Safety Management System

This IMS Manual describes the core elements of the AECOM Safety Management System, providing guidance in effective health and safety (HS) management of our operations, activities

and services in the combined areas of direct control and influence. The Safety Management System includes:

- All health and safety issues under AECOM direct control.
- External health and safety issues where AECOM exerts indirect management control including activities, products and services of suppliers, contractors, subcontractors and clients.
- Monitoring of AECOM's HS performance to confirm that both office and project site activities are compliant with the processes and procedures outlined in this Manual.
- Assuring that the health and safety of all employees, other stakeholders and the natural environment are being duly respected.

## **2.0 IMS Policy**

The current version of the IMS Policy is available to all AECOM staff on the IMS intranet page located on myAECOM.

## **3.0 Organization**

AECOM operates a balanced matrix organization consisting of both Geographies and Global Business Lines (G/BLs) as shown in Attachment 2. This matrix structure enables AECOM to efficiently manage and deliver services in response to client needs, while assuring access to the most appropriate technical and professional resources, all through a balanced network that forces collaboration, coordination and cooperation. AECOM delivers services to clients almost exclusively, or as part of a joint venture or other alliance, by contracting for individually defined "projects," each of which has its own scope, schedule, cost and other terms and conditions.

In the context of this IMS Manual, the following two distinct management levels defined below refer to the top-level management team within AECOM:

- Executive Management – Top-level management within each specific Geography, and Business Line where appropriate. Each Executive Management team is responsible for the management and maintenance of their geography-based certifications.
- IMS Steering Committee – AECOM has established an IMS Steering Committee charged with the responsibility to develop, implement, maintain and improve the various components included in the IMS, including providing input and direction to Executive Management on the status of the IMS for maintenance of the Geography-based certifications.

## **4.0 Management Systems**

### **4.1 General**

AECOM has established, documented, implemented and maintained its management systems through the components of this Integrated Management System, including processes for its review and continual improvement.

### **4.2 Documentation Requirements**

#### **4.2.1 General**

AECOM's documented IMS includes:

- A statement of policy and objectives.
- This IMS Manual.
- IMS procedures.
- Various supporting documents that facilitate planning, operation and control of processes.
- Records as required by ISO and the IMS procedures.

#### **4.2.2 IMS Manual**

This Manual, along with the associated procedures, constitutes AECOM's Integrated Management System.

#### **4.2.3 Control of Documents**

AECOM controls its IMS documents in accordance with IMS Procedure G2-001-PR. Documents related to project activities are controlled in accordance with IMS Procedure Q2-222-PR.



#### 4.2.4 Control of Records

AECOM controls its IMS records in accordance with IMS Procedure G2-001-PR. Records required by the various implementing procedures are identified and controlled as specified in the applicable procedure. Records generated by project activities are controlled in accordance with IMS Procedure Q2-222-PR.

## 5.0 Management Responsibility

### 5.1 Management Commitment

Top-level commitment is a key element in the success of any management program. To demonstrate this support, Executive Management at AECOM is committed to consistently applying this IMS and promoting continual improvement. To accomplish this, Executive Management:

- Supports the effective use of its IMS to meet business goals.
- Communicates the importance of meeting customer, internal and statutory/regulatory requirements.
- Reviews, endorses and supports the IMS Policy and objectives.
- Participates in management reviews as appropriate for the various IMS components.
- Makes available resources to implement and manage the IMS.

### 5.2 Client Focus

Executive Management requires that meeting client requirements is the focus of all work by implementing client-related processes; for example:

- Client requirements are initially determined during proposal and bid preparation, negotiations, scope of work determination and contract review.
- Client requirements are reviewed during Project Plan development and project kickoff meetings.
- Client requirements are reaffirmed during the course of the work through status reporting, progress meetings and ongoing communications with the client.
- Client requirements are met by defining and following procedures that guide the development of deliverables and services, including the performance of internal reviews prior to delivery.
- Client satisfaction is measured using client surveys and other methods that obtain feedback directly from clients.

Methods covering these activities are included in various IMS procedures.

### 5.3 Policy

The IMS Steering Committee, in conjunction with Executive Management, has developed and reviewed this policy to determine that it:

- Meets the desired purpose of the organization.
- Includes a commitment to comply with requirements and seeks to continuously improve their effectiveness.
- Provides a framework for establishing and reviewing objectives.
- Is communicated and understood by all employees.
- Continues to be suitable for the AECOM organization.

### 5.4 Planning

#### 5.4.1 Objectives

AECOM has developed and annually reviews a series of objectives and targets related to its IMS as follows:

- Sustain a high standard of services.
- Enhance client satisfaction.
- Continuously improve all areas of our business.
- Develop our staff.
- Minimize our environmental impacts.
- Manage and reduce risk exposure.
- Ensure that all places of work are safe and without risks to health.

- Ensuring a “zero incident” philosophy throughout our operations.
- Comply with legal and other applicable requirements.

#### 5.4.2 Integrated Management System Planning

The elements that comprise the IMS planning process are the development and maintenance of this IMS Manual as well as the IMS implementing procedures, and the integration of improvement measurements described in Section 5.6 (Management Review) and Section 8.2 (Monitoring and Measurement).

The IMS Steering Committee will evaluate and approve any revisions requested to determine their potential impact on other elements or components of the IMS in order to maintain the overall integrity and effectiveness of the system.

### 5.5 Responsibility, Authority and Communication

#### 5.5.1 Responsibility and Authority

The principal responsibilities associated with the execution of the IMS are defined within functional job descriptions (i.e., position requisitions, position descriptions) maintained by AECOM's Human Resources group and, more specifically, as specified in this IMS Manual and the IMS Procedures.

Each defined IMS role is intended to be filled by individual personnel; however, practicality dictates that exceptions be allowed. It is business critical that the functions described for all positions be carried out as intended. Furthermore, in all cases, the intent of the procedures regarding the independence of duties and review and approval requirements shall not be diminished.

#### 5.5.2 Management Representative

Executive Management appoints management representatives representing specific components of the IMS as appropriate (quality management system, environmental management system, safety management system):

Duties of the Management Representatives are to:

- Monitor, evaluate and report on effectiveness.
- Lead the development and implementation of processes and procedures.
- Lead the development and implementation of training and orientation.
- Lead executive management review sessions.
- Direct corporate-level corrective and preventive actions.
- Monitor project-level corrective and preventive actions.
- Direct auditing activities.

A list of individuals currently assigned as management representatives is maintained by the IMS Steering Committee.

#### 5.5.3 Communication

Executive Management has established the following means and methods to internally communicate the development, implementation, status and effectiveness of its IMS components among the various levels and functions in the organization:

- Management review output.
- E-mail announcements and directives.
- Intranet articles, postings and other publications.
- Geography-/Business Line level communications and meetings with staff.
- Internal audit reports.

### 5.6 Management Review

#### 5.6.1 General Provisions

At a minimum, AECOM reviews the relevant IMS components annually to affirm their continuing suitability, adequacy and effectiveness. All aspects of the IMS are subject to review including policy, manual and procedures. Management Reviews are conducted by the appropriate

Geography Executive Management team, with input from the Business Line management as appropriate, for the IMS components relevant to their operation.

In addition, a top-level AECOM Management Review is conducted annually by the IMS Steering Committee for the overall functionality of the IMS. This information is provided as input to the various Geography Management Reviews.

#### 5.6.2 Review Input

Management Representatives present information to Executive Management regarding:

- Results of internal and external audits.
- Client feedback obtained through various means.
- Analysis of data collected for significant environmental impacts.
- Evaluation of performance.
- Status of corrective and preventive actions.
- Follow-up actions and results from previous Management Reviews.
- Circumstances such as changes in business climate, competitive conditions, and legal and regulatory requirements.
- Legal compliance, breaches, risks and relations with regulators.
- Incidents and emergencies in the preceding year.
- Recommendations for improving the system.
- Input from the IMS Steering Committee Management Review.

#### 5.6.3 Management Review Output

Based on the information presented, Executive Management reaches a conclusion about the continuing suitability, adequacy and effectiveness of the IMS and its components. The output from the Management Review includes, as applicable to the IMS function, decisions pertaining to:

- Changes that improve the effectiveness of the IMS functions.
- Changes to policy, objectives and targets.
- Proposed changes in scope of the IMS functions.
- Proposed response to changes in legislation.
- Legal compliance statement.
- Changes to improve the services and deliverables.
- The provision of resources to address the needs.

Records of Management Reviews are maintained by the respective Management Representatives.

## 6.0 Resource Management

### 6.1 Providing Adequate Resources

AECOM authorizes top management of each Geography and Business Line to identify and provide resources, including trained and qualified personnel, infrastructure and technology, that are essential to:

- Implementing and maintaining the IMS and to continually improving its effectiveness.
- Enhancing client satisfaction by meeting client requirements.

### 6.2 Human Resources

#### 6.2.1 General

AECOM hires and sustains a competent workforce for each job that affects quality, environment and/or safety by:

- Establishing and maintaining position descriptions that define educational, practical experience, certification and skills requirements.
- Hiring personnel who meet requirements as defined in position descriptions and personnel requisitions or by having management approval when hiring those who do not fully meet stated requirements.

- Providing education, training and orientation, primarily through on-the-job training, to maintain proficiencies or to gain new skills.

#### 6.2.2 Competence, Awareness and Training

- a. AECOM determines the necessary level of competence for personnel performing work affecting product quality by:
  - Responsible managers defining educational, experience and skills requirements for technical personnel based on project or organizational need.
  - Supervisors' oversight and observation of the work.
- b. AECOM provides the orientation and training or takes other steps necessary to meet educational, experience and skill needs by:
  - Providing on-the-job training.
  - Providing external training.
  - Providing internal training and orientation.
  - Supporting attendance at technical and professional seminars and conferences.
- c. AECOM evaluates the effectiveness of staff training by:
  - Direct observation of work and output by supervisors.
  - Identifying changes in staff proficiency through annual performance evaluations.
- d. AECOM personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of IMS objectives as a result of:
  - Orientation and training.
  - The defining of project requirements and performance standards through project initiation activities.
  - Feedback during periodic project reviews and internal and external audits.
- e. AECOM maintains records of:
  - New hires meeting stated requirements or who have been hired by exception to the requirements as approved by management.
  - Additional education, orientation or training.
  - Certifications and registrations maintained to meet specific jurisdictional, professional and regulatory requirements.

#### 6.3 Infrastructure

Operational managers are responsible for determining, providing and maintaining suitable workplace, hardware, software and supporting services to conduct AECOM's operations to achieve conformity to product requirements, meet safe workplace obligations and achieve compliance with the quality, environmental and safety management systems.

#### 6.4 Work Environment

AECOM is committed to providing a positive work environment conducive to promoting the culture, ethic and motivation to achieve conformity to requirements. AECOM achieves this by:

- Providing corporate or project office and ancillary space that meets or exceeds industry standards.
- Providing effective support, supervision, and oversight.
- Providing competitive personnel benefits.
- Conducting staff recognition/rewards programs to acknowledge the performance accomplishments of employees.
- Promoting sustainable work environments in line with the appropriate environmental management system.
- Providing a safe and healthy working environment for all.
- Promoting an incident- and injury-free philosophy.

### 7.0 Product Realization

Product realization refers to the development and provision of services, which may or may not include discrete deliverables to AECOM clients. This section of the IMS Manual pertains primarily to the quality component of the

IMS. AECOM's work product is delivered almost exclusively through individual projects that have been awarded via written contracts between AECOM and individual clients.

## 7.1 Project Planning

The project planning process provides information needed to control the project, execute work tasks, and interpret and apply the IMS procedures to the specific project requirements. In addition, project planning identifies unique or additional objectives and monitoring, documentation, records, verification, validation, and resource requirements. The planning required is described in the Project Plan procedure Q2-221-PR. Records attesting to the conformity of the process and with product conformity are defined in various IMS procedures.

## 7.2 Client-related Processes

### 7.2.1 Determination of Requirements

Client requirements are determined by reviewing contract documentation provided by the client. The contract, in conjunction with other documentation such as requests for proposals, scopes of work, invitations to bid, etc., provides the basis for identifying and understanding client requirements.

### 7.2.2 Review of Requirements

The contract review process ensures that the contract assigns risks fairly and that Project Managers and Project Directors are aware of the contract requirements. The key client requirements are transmitted to the project team through the project planning phase and, where applicable, project kickoff meetings.

### 7.2.3 External Communications

Communications with the client as to the ongoing progress of the work and/or changes in project requirements are addressed through correspondence, meetings, telephone calls, e-mails, project status reports, and/or client comments on interim deliverables. AECOM also obtains feedback about clients' perception of the work from the monitoring process described in Section 8.2.

With regard to environmental aspects and management, AECOM receives, documents and responds to relevant communication from external interested parties. AECOM does not communicate externally about its significant environmental aspects except as required by law or regulation. This approach is reviewed in conjunction with the annual Management Review.

## 7.3 Design

Since AECOM is not a manufacturer of goods and products, rather a provider of services, the term Design and Development as used in the ISO 9001:2008 standard does not directly apply. Rather, "design" is a predominant service/product that AECOM provides to its clients. For the purposes of this section of the Manual, the word design refers to this service/product.

### 7.3.1 Planning

The design process shall be planned including any timing or sequencing of project execution and quality-related activities; review, verification and validation requirements; and the authority and responsibility for design. The requirements for planning are addressed within the IMS procedures as well as the Project Plan.

### 7.3.2 Inputs

Design inputs shall be defined and recorded. Inputs may include items such as:

- Functional requirements.
- Regulatory and/or permit requirements.
- Industry codes and/or standards.
- Client requirements.
- Previous experience.
- Acceptable methods or processes.
- Engineering judgment.

- 7.3.3 **Outputs**

Design output generally consists of the services and deliverables provided to the client as identified in the contract and agreed-upon scope of work. Outputs shall be in a form consistent with their purpose, accompanied with client requirements and shall be summarized in the Project Plan.
- 7.3.4 **Design Review**

At established points in the design process, qualified individuals shall review the design. The review process shall be documented. Design review requirements are addressed within the Checking and Verification Procedure Q2-351-PR.
- 7.3.5 **Design Verification**

Designs shall be verified so that the output is consistent with the design input requirements. Design verification requirements are addressed within the Checking and Verification Procedure Q2-351-PR.
- 7.3.6 **Design Validation**

AECOM does not typically engage in research and development type activities requiring the physical testing of designs. The designs are validated through the design review and verification process that requires designs to be developed with proven methods, compared with previous successful designs and created by applying known physical parameters.
- 7.3.7 **Design Changes**

Design changes and modifications shall be identified, documented, tracked, reviewed and approved by authorized personnel prior to their implementation. Design changes are addressed within the Checking and Verification Procedure Q2-351-PR and the Change Management Procedure Q2-331-PR.
- 7.4 **Purchasing**
  - 7.4.1 **Purchasing Process**

AECOM's purchase of products and services pertaining to product realization is generally limited to subs services and computer software. The purchase of miscellaneous supplies, tools and equipment is handled at the local business level and not included in this process.

The Subs Management Procedure Q2-141-PR and Software Validation Procedure Q2-311-PR provide additional information and guidance on purchasing processes.
  - 7.4.2 **Purchasing Information**

AECOM's purchasing processes require that relevant information needed to solicit, evaluate and select subs capable of providing the required services is available, and that project-related information relevant to preparing a responsive proposal is provided to prospective subs.
  - 7.4.3 **Verification of Purchased Product**

The services purchased from subs are largely professional in nature and AECOM relies, to a great degree, on the technical and professional qualifications and experience of the subs to deliver services and products that meet project requirements. AECOM does provide a level of oversight to determine that subs are providing the services for which they were contracted and that they properly interface with adjacent products or services being provided by AECOM or other subs. Subcontracted services shall be controlled and managed consistent with their complexity, risk, history, magnitude and other pertinent factors. Methods for control and management are covered in further detail in the IMS procedures.

AECOM also requires that software used for technical activities has been validated in accordance with IMS procedure Q2-311-PR.
- 7.5 **Production and Services**

Production and services are performed under controlled conditions in accordance with the IMS procedures and as discussed in Section 7.3 of this IMS Manual.

  - 7.5.1 **Control of Production and Services**

As indicated in Section 7.3, control of AECOM services is performed by qualified individuals at established points in the design process as indicated in the IMS procedures and Project Plan.

#### 7.5.2 Validation of Processes for Production and Services

As indicated in Section 7.3, process validation takes place as an inherent part of the design process and as specified in the IMS procedures and Project Plan. In general, AECOM does not engage in other activities that cannot be verified and does not engage in physical activities requiring additional validation steps.

#### 7.5.3 Identification and Traceability

The products of AECOM's professional services typically consist of documents, records and deliverables and are traceable and tracked as identified in the document control and design control procedures described within the IMS procedures, or procedures in specific Project Plans.

#### 7.5.4 Client Property

Client property supplied to AECOM typically is limited to information or data received as input to design and services. This information or data is controlled in accordance with the document control procedures as described in the IMS procedures or procedures in specific Project Plans.

#### 7.5.5 Preservation of Product

Products of AECOM generally consist of intellectual property in the form of documents, reports, drawings, electronic files and other similar deliverables. Such products are preserved for various periods of time as dictated by contract terms, by the document and records control IMS procedures, and by standard business practices such as computer/server protection and backups.

### 7.6 Control of Monitoring and Measuring Devices

Monitoring and measuring devices are sometimes used by AECOM to collect data as input to projects, for delivery to clients as a product (e.g., field surveying), or for analyzing materials or samples to determine physical conditions and properties (e.g., laboratory or field materials testing). Some of these measuring devices are used for estimating purposes only and therefore need to be monitored only as to general condition, functionality and accuracy appropriate for the use. Where measuring and monitoring devices of higher accuracy and for more critical purposes are used, measures to control them shall be as described in the IMS procedures.

### 7.7 Emergency Preparedness and Response

Response to potential emergency situations and potential accidents that can impact the environment will be in accordance with procedures established in AECOM's SH&E Program.

## 8.0 Measurement, Analysis and Improvement

### 8.1 General

Executive Management plans and implements measurement, analysis and improvement processes of its IMS. These processes are supportive of AECOM goals and focus on key aspects of AECOM performance by demonstrating the following:

- Appropriateness and conformity of the services provided to clients.
- Compliance and appropriateness of the IMS and its individual components.
- Continually improving the effectiveness of the IMS and its individual components.

Management Representatives review and analyze the processes and, at a minimum, annually report to their Executive Management and staff on the state of AECOM's management systems. The report shall outline recommended improvements.

### 8.2 Monitoring and Measurement

#### 8.2.1 Client Satisfaction

A key performance indicator of the quality component of the IMS is the client's perception of the quality of the work.

AECOM monitors client perception in four primary ways:

- Conducting client satisfaction surveys using written and/or face-to-face procedures.
- Collecting and analyzing client-generated information on AECOM's performance.
- Considering and responding to informal performance comments and suggestions offered by clients during the course of the work.
- Post-project reviews.

These activities are conducted in accordance with AECOM's IMS procedures. The results of questionnaires, face-to-face meetings and client-generated information are analyzed and presented as part of the Management Reviews.

#### 8.2.2 Internal Audits

AECOM plans and programs internal audits to assess compliance with the applicable IMS procedures; the requirements of, where applicable, ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007; and the objectives established by management. Internal audits are designed to be effective and maintained to be consistent with the needs of the organization. Audit criteria, scope, frequency and methodology are established by Management Representatives to provide objectivity and to maintain the impartiality of the audit process. Auditors are prohibited from auditing their own work.

The frequency, extent and focus of audits consider the importance of the processes to be reviewed, management objectives and the results of previous audits. More frequent internal audits may be deemed advisable for business units new to the AECOM IMS; if the results of previous audits have been unsatisfactory; or if there have been significant client complaints, corrective actions, errors and omission concerns, etc., in a particular business unit.

The management of the unit or functional area audited shall take timely action to address and correct identified noncompliant conditions.

Audits are conducted as detailed in the IMS procedures for each of the AECOM Geographies.

#### 8.2.3 Monitoring and Measuring of Processes

AECOM uses a variety of methods to monitor and measure IMS processes, including evaluating the ability of management processes to achieve planned results.

Where effectiveness is not achieved and the objectives are not being met, corrective and/or preventive actions are taken which may include program/process changes, updates or other measures necessary to achieve the goals and objectives of the management system.

#### 8.2.4 Monitoring and Measuring of Product

AECOM monitors and measures the characteristics of its services and deliverables to verify that requirements have been met. This is carried out at appropriate stages of the production process in accordance with the schedule set up in the project planning phase. Evidence of conformity with the acceptance criteria is established by a sign-off, releasing the deliverable and confirming that services being provided meet requirements.

Deliverable release requirements are detailed in the IMS procedures. Deliverable release does not occur until the appropriate checking and verification procedures have been completed by authorized staff. In exceptional circumstances, early release may be authorized prior to completion of the designated procedures when requested by the client and early release approval by senior management is documented.

### 8.3 Control of Nonconformances

Potential nonconformances in deliverables identified prior to release are tracked and resolved by applying the Checking and Verification Procedure Q2-351-PR as well as associated IMS procedures. This is an accepted and normal iterative review process for the types of service and deliverables typically produced by AECOM.

Actual nonconformances discovered after release are identified and controlled, including their environmental and safety impacts, to prevent unintended use. AECOM deals with nonconforming work in one or more of the following ways:



- By taking action to eliminate or correct the detected nonconformity.
- By authorizing its use, release or acceptance as approved by the relevant authority and, where applicable, the client.
- By taking action to preclude its use or application until nonconformities are overcome.

In general, noncompliant delivered work is the result of a failure to adhere to established procedures. The cause of actual or potential process failures is addressed in accordance with the Corrective and Preventive Action procedures.

#### **8.4 Analysis of Data**

AECOM's IMS and its components are periodically reviewed to determine value and effectiveness and identify where improvements are desirable.

The analysis of data will provide information relating to:

- Client satisfaction.
- Conformity of services and deliverables.
- Process, services and deliverable trends including opportunities for preventive action.
- Subs and partners.

#### **8.5 Improvement**

##### **8.5.1 Continuous Improvement**

AECOM achieves continual improvement of the effectiveness of the IMS and components through top-down promotion of the IMS policy, dissemination of the IMS objectives, evaluation of and response to audit results, analysis of objective data, implementation and evaluation of corrective and preventive actions, and Management Review.

##### **8.5.2 Corrective Action**

Noncompliant conditions or ineffective processes are identified and actions are taken to eliminate the cause of the condition and prevent its recurrence. The extent of the corrective action is commensurate with the risk posed by the noncompliant condition. Noncompliant items or processes are addressed in accordance with the Geography-specific procedure for Corrective/Preventive Action.

##### **8.5.3 Preventive Action**

Potential noncompliant conditions are addressed to prevent their occurrence. The extent of preventive action is to be commensurate with the risk posed by the potential noncompliant condition. Preventive actions are to be addressed in accordance with the Geography-specific procedure for Corrective/Preventive Action and the effectiveness of these actions reviewed.

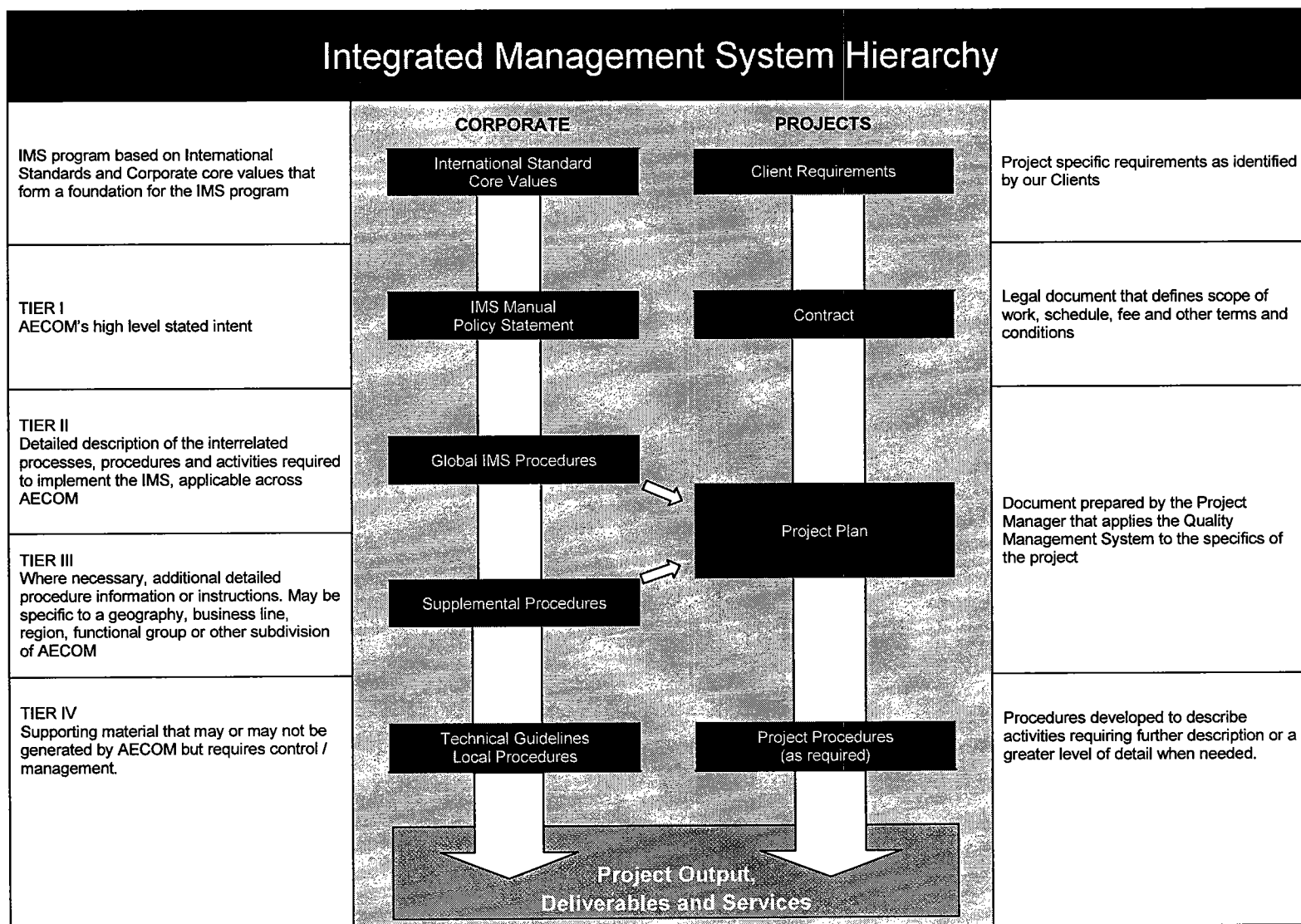
### **9.0 Emergency Preparedness and Response**

Response to potential emergency situations and potential accidents that can impact the environment will be in accordance with AECOM's SH&E Program. This program requires that each location establish and execute an emergency action plan.

### **10.0 Attachments**

- 10.1 Attachment 1 – Integrated Management System Hierarchy
- 10.2 Attachment 2 – AECOM Organization

**Attachment 1**



# Attachment 2 – AECOM Organization

